

Claims

What is claimed is:

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1. An absorbent composite that exhibits an improved fluid intake rate, wherein the components of said composite are treated to have surface charges which create repulsive forces between said composite components upon fluid insult of said composite.

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2. The composite of claim 1 wherein said composite components comprise fluff fibers only, superabsorbent particles only, or combination thereof.

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3. The composite of claim 1 wherein said treatment is a coating, chemical, electron beam, radiation, corona treatment, or combination thereof.

4. The composite of claim 1 wherein said treatment is same for all components.

5. The composite of claim 1 wherein said treatment is different for all components.

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6. The composite of claim 1 wherein said repulsive force is between superabsorbent particles only, fluff fibers only, superabsorbent particles and fibers, or combinations thereof.

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7. The composite of claim 1 wherein said composite has an increased void volume.

8. The composite of claim 1 wherein said composite has increased flow channels.

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9. The composite of claim 1 wherein said composite has and increased permeability.

10. The composite of claim 1 wherein said composite has an increased swelling thickness.

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11. The composite of claim 1 wherein said composite components comprise at least one type of fiber having a complimentary charge to at least one SAP within said composite that provides a desired repulsive property without treatment of said at least one type of fiber.
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12. The composite of claim 1 wherein said composite components comprise at least one SAP having a complimentary charge to at least one type of fiber within said composite that provides a repulsive property without treatment of said at least one SAP.
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13. The composite of claim 1 wherein said components comprise at least superabsorbent particles in the 300 to 600 microns size range.
14. The composite of claim 1 wherein said components comprise at least superabsorbent particles, and wherein at least 50 percent of said particles are in the 300 to 600 micron size range.
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15. The composite of claim 1 wherein said components having said repulsive forces are selectively segregated within said composite.
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16. The composite of claim 15 wherein said segregated components are disposed in at least one discrete layer, strip, section, or combination thereof in said composite.
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17. A disposable absorbent article comprising the composite of claim 1.
18. The article of claim 17 wherein said composite is selectively segregated within said composite.
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19. The article of claim 17 wherein said composite is in the form of at least one discrete layer, strip, section, or combination thereof in said article.
20. A method of making an absorbent composite comprises treating at least one component of said composite to produce a repulsive force within said composite to increase the void volume of said composite.
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21. A method of making an absorbent composite comprises treating at least one component of said composite to produce a repulsive force within said composite to increase the fluid intake rate of said composite.
- 5 22. The method of claim 21 wherein said composite components comprise fluff fibers only, superabsorbent particles only, or combination thereof.
23. The method of claim 21 wherein said treatment is a coating, chemical, electron beam, radiation, corona treatment, or combination thereof.
- 10 24. The method of claim 21 wherein said treatment is same for all components.
25. The method of claim 21 wherein said treatment is different for all components.
- 15 26. The method of claim 21 wherein said repulsive force is between superabsorbent particles only, fluff fibers only, superabsorbent particles and fibers, or combinations thereof.
27. The method of claim 21 wherein said composite has an increased void volume.
- 20 28. The method of claim 21 wherein said composite has and increased permeability.
29. The method of claim 21 wherein said composite has an increased swelling thickness.
- 25 30. The method of claim 21 wherein said composite components comprise at least one type of fiber having a complimentary charge to at least one SAP within said composite that provides a desired repulsive property without treatment of said at least one type of fiber.
- 30 31. The method of claim 21 wherein said composite components comprise at least one SAP having a complimentary charge to at least one type of fiber within said composite that provides a desired repulsive property without treatment of said at least one SAP.
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32. The method of claim 21 wherein said components comprise at least superabsorbent particles in the 300 to 600 microns size range.
- 5 33. The method of claim 21 wherein said components comprise at least superabsorbent particles, and wherein at least 50 percent of said particles are in the 300 to 600 micron size range.
- 10 34. A means for modifying the surface charge of the components of an absorbent composite so that a repulsive force is generated upon consecutive fluid insults which result in an increased fluid intake rate of said composite.